AN ASSESSMENT OF THE IPB PROCESS AT THE OPERATIONAL LEVEL

A MONOGRAPH
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THE CURRENT IPB PROCESS IS AN INDUCTIVE, REDUCTIONIST METHODOLOGY THAT EXAMINES THE ENEMY AND THE ENVIRONMENT. THE MONOGRAPH PROPOSES A PROCESS BASED ON A THEORY OF SYSTEM AND COMPLEXITY THEORY. BASED ON THESE THEORIES, A PROPOSED METHODOLOGY IS EXAMINED AND USED TO ANALYZE TWO HISTORICAL EXAMPLES OF MOGADISHU, SOMALIA AND GROZNY CHECHNYA. THE PROCESS IS A DEDUCTIVE, HOLISTIC METHOD THAT PROVIDES THE COMMANDER WITH THE ENEMY'S CENTER OF GRAVITY, DECISIVE POINTS AND PATTERNS OF BEHAVIOR.

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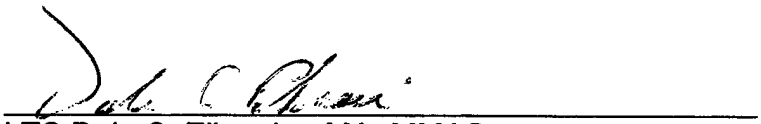

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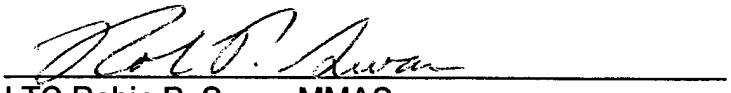

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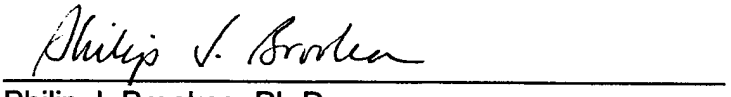

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ABSTRACT

The Intelligence Preparation of the Battlefield (IPB) is a significant part of the U.S. Army's planning process. The IPB is a methodical process that reduces the enemy and the environment into its component parts at an instant in time and finite space. At the tactical level, the inductive process allows a commander to develop a plan that focuses his combat power at particular military components that are identified as enemy vulnerabilities. This process has proven quite successful at the tactical level.

The IPB process is described to a lesser extent at the operational and strategic levels of war in FM 34-130. The manual states the basic IPB process remains the same, regardless of the level of war at which it is conducted. This argument cannot be valid above the tactical level of war because of the complexity associated with higher level objectives and aims that integrate the instruments of power. This makes predicting one or two likely enemy courses of action at the operational and strategic levels almost impossible. The focus above the tactical level must not be on identifying specific enemy courses of action, but rather enemy centers of gravity, decisive points, and patterns of enemy behavior to develop friendly campaign plans.

The monograph proposes establishing a theoretical foundation first and developing a methodology based on the preferred theories. The proposed methodology is evaluated using criteria established by Cohen and Gooch, authors of Military Misfortunes. They suggest that military failures are attributed to organizations that fail to learn, anticipate and/or adapt. The basis of all current U.S. military operations and campaign plans are based on the results of the IPB process. Therefore, these attributes must be integrated into any proposed IPB methodology to be considered successful. A process that does not meet these criteria must be considered fundamentally unsound. These three criteria will formulate the theoretical underpinning in support of the argument and evaluation of the proposed methodology. This monograph analyzes current operations in complex urban terrain by two major technological powers, the United States in Somalia and Russia in Chechnya superimposing the proposed methodology. The monograph analyzes these examples using a proposed methodology. The principle research question is "Is there utility to using system and complexity theory as the framework for the IPB process at the operational level of war?"

The monograph concludes that the IPB process in FM 34-130 must be revised above the tactical level. The current inductive IPB process is incapable of understanding complex relationships and identifying patterns of behavior in the complex realm of operational warfare. The monograph proposes a process that is holistic and deductive and is capable of learning about the enemy, anticipating the enemy's actions and provides recommendations to adapt to the behavior.

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"He who has a thorough knowledge of his own conditions as well as the conditions of the enemy is sure to win in all battles. He who has a thorough knowledge of his conditions but not the conditions of the enemy has an even chance of winning and losing a battle. He who has neither a thorough knowledge of his own conditions nor of the enemy's is sure to lose in every battle."[1]

Sun Tzu

INTRODUCTION

From the earliest days of warfare, theorists such as Sun Tzu have preached the need for information to understand the enemy, themselves and the terrain. This difficult task forms the foundation that allows the commander to develop a plan directed against the enemy to successfully impose his will on the enemy. The United States Army has developed a formal method called the Intelligence Preparation of the Battlefield (IPB) process. It is defined as a systematic, continuous process of analyzing the threat and environment in a specific geographic area.[2] This analytical method is the basis for commanders and staff to develop friendly plans.

The Intelligence Preparation of the Battlefield is a methodical process that reduces the enemy and the environment into its component parts at an instant in time and finite space. At the tactical level, the process allows a commander to develop a plan that focuses his combat power at particular military components that are identified as enemy vulnerabilities. One common method tactical commanders use to analyze the enemy is to break the components into the battlefield operating systems (BOS) and direct their attacks toward the one or more that allow them to impose their will upon the enemy.[3] This process has proven quite successful at the tactical level because of the simplified arraying

of forces and weapon systems using scientific calculations. At the tactical level, a commander can mass his combat power within a finite portion of time and space and achieve a desired effect on the enemy.

The IPB process is described to a lesser extent at the operational and strategic levels of war in FM 34-130. The manual states the basic IPB process remains the same, regardless of the level of war at which it is conducted.[4] This argument cannot be valid above the tactical level of war because of the complexity associated with higher level objectives and aims that integrate the instruments of power: diplomatic, information, and economic. The realm of possible enemy actions based on scientific calculations alone becomes exponentially higher due to the myriad of variables. This does not consider the relationship of the variables and their linkages to the overall aims or objectives. This makes predicting one or two likely courses of action at the operational and strategic levels almost impossible. The focus above the tactical level must not be on identifying enemy courses of action, but rather enemy centers of gravity, decisive points, and patterns of enemy behavior to develop friendly campaign plans.

A great number of monographs, theses, and articles have been written on how to revise the conduct of this methodology at the operational level due to inadequacies in accounting for the enemy's behavior in recent military operations.[5] These authors argue the premise that the same reductionist methodology used at the tactical level cannot work at the operational level. The operational level increases the complexity of predicting enemy behavior. Warfare at the operational level is a function of a greater number of variables than the tactical level. These variables may include the commonly accepted larger enemy armies, greater periods of time, larger areas of operations, access to huge

quantities of information, the intervention of the media, the involvement of the population and their affects on the government. Other variables that influence decision-making include access to critical resources, public opinion, and perceptions. This list is not all-inclusive but the combined effects of all these variables affect the enemy and impacts on their resulting behavior in different ways that are not always logical. Why did British forces attack Goose Green during the war in the Falkland Islands? This objective had no operational or tactical significance. It was out of the way and would consume critical resources that were already limited. But the British government needed a quick victory to maintain the support of the parliament and the population. The complex relationship of variables that affect the enemy's behavior make it difficult for the analyst to always understand the enemy and anticipate their actions for the commander. The current IPB process must be reviewed and updated to reflect these complexities based on a theoretical foundation. The many recent monographs concur that a more holistic approach must be used to integrate all the factors that may affect the enemy's behavior but do not address the recommendations based on any theoretical elements.[6]

METHODOLOGY

This monograph uses primary and secondary sources to formulate an analysis to answer the question posed. Is there utility to using system and complexity theory as the framework for the IPB process at the operational level of war? The monograph examines how best to identify the spectrum of enemy potential actions the operational commander may encounter. It proposes a revised methodology from the current FM 34-130 to

analyze the enemy at the operational level of warfare. The monograph proposes a holistic view by using system theory to analyze friendly and enemy organizations. The monograph explains the basic concept of system theory and the interrelationship of its critical component parts. The methodology then takes the system theory and places it within the context of complexity theory. This forms the theoretical foundation for analyzing the enemy and friendly forces as a complex and adaptive system operating within a particular environment. The monograph examines how complex adaptive systems behave based on factors within their environment and how opposing systems co-evolve based on each other's influences. System and complexity theory invalidates the current IPB process methodology of examining any particular system in isolation.

There is a wide spectrum of environments the military can find themselves engaged in the future at the operational level to include fighting in the desert, jungles or even cities. The urban environment may prove to be the most complex and likely operational environment the military will have to deal with. The increased size and expansion of urban areas means future operations in urban areas are increasingly likely. The RAND organization briefed the Military Operations in Built-up Areas (MOBA) Defense Science Board in 1994 that operations in urban areas may be unavoidable.[7] The larger size and increased density of urban areas will hinder the U. S. military forces from clearing an enemy in one tactical engagement. The U.S. Army must identify their operational objectives and develop a plan that achieves them over a series of engagements over time and space. Also increasing the likelihood of fighting in urban areas is the realization by the enemy that they can reduce the technological advantages of

superior opposing system's stand off weapons, satellite based systems and precision guided munitions.

For brevity sake, the monograph focuses on analyzing recent historical vignettes of urban warfare. The urban environment provides the greatest number of variables and is arguably the most complex form on the spectrum of warfare. Historical examples of urban warfare to include Grozny, Chechnya and Mogadishu, Somalia provide the data points for the analysis.

The monograph recommends a deductive format to identify the systems and its integral components. It will explain their complex interrelationships and address how each system reacts to the stimulus of other systems and how each seeks to counter their opponents' aims by imposing their own will or resisting the imposition of the other's will within the specific environment.

The proposed methodology is evaluated using criteria established by Cohen and Gooch, authors of Military Misfortunes. They suggest that military failures are attributed to organizations that fail to learn, anticipate and/or adapt. The basis of all current U.S. military operations and campaign plans are based on the results of the IPB process. Therefore, these attributes must be integrated into any proposed IPB methodology to be considered successful. A process that does not meet these criteria must be considered fundamentally unsound. The criterion of *learning* is defined as observing and analyzing the lessons of previous experiences.[8] The method must provide an understanding of the system, how it works, what influences its behavior within its environment as seen from experience. The criterion of *anticipating* is defined as foreseeing predictable situations.[9] The method must understand the variety of factors that affect a complex system in order

to predict a pattern of behavior that results from a variety of inputs. Therefore, to anticipate, a system must understand relationships between the system and other variables. It must understand the qualitative behavior of the system and the nature of its dynamics. The criterion of *adaptation* is defined as an understanding that the opposing system can create new and unexpected circumstances and the friendly system must be capable of adapting.[10] The methodology must understand that a system's behavior is usually rule-based but sometimes irregular and random. When a system adapts, it alters what was rule-based and what was irregular or random and optimizes it within the complex environment. These three criteria will formulate the theoretical underpinning in support of the argument and evaluation of the proposed methodology.

The analysis proposes a theoretical groundwork and examines the feasibility of the methodology and its suitability in allowing a commander to learn about the enemy, anticipate patterns of behavior, and provide a basis in which to recommend adapting within the environment to best oppose the threat's unpredictable behavior. The monograph proposes that to successfully analyze and predict the enemy for developing operations and campaign plans, the U.S. Army must view the enemy as a system, how its components interact with each other, and how the system interacts with other systems and how it leverages the environment. The proposed framework for examining the historical examples is discussed in a latter section.

"I shall proceed from the simple to the complex. But in war more than in any other subject we must begin by looking at the nature of the whole; for here more than elsewhere the part and the whole must always be thought of together."[11]

Carl von Clausewitz

LINKING SYSTEM AND COMPLEXITY THEORIES

Clausewitz comprehended the need to view the concept of war as a whole. He proposed a theoretical foundation based on a deductive examination of the entire concept of warfare. It is from this deductive methodology that many military theorists and historians have studied the complex nature of warfare. Clausewitz begins his theoretical analysis with his idea of abstract war, in a vacuum, based on unlimited and spontaneous action.[12] From this idea, he expounds on the concept of real war that includes friction. The same concept can be applied to the organizations or systems within the realm of real war that seek to achieve their political and military aims. A well-articulated theory provides the basis behind the analysis of the proposed IPB methodology and ensures an improved application for the commander in the planning process.

Scientific theories permeate our society. They are used to explain various entities and predict their conduct. Newtonian theories have simplified the mental models of analysis by proceduralizing them. But they are fundamentally based on a closed system approach and do not integrate the concept of entropy entering the environment. In a closed system, the process allows for discounting some interactions between the parts or components as nonexistent or weak and these could therefore be neglected in order to fit

the model. Another premise is that the relationship between the parts is linear. This means the overall behavior of a closed system is equal to the sum of all the component behaviors.[13] It is an ordered and tidy method of explaining difficult ideas for people to conceptualize. However, this process is not applicable to the reality of "open systems" that interact with the environment.

An open system is described as a set of units or elements interconnected so that changes in some elements or their relations produce changes in other parts of the system and the entire system exhibits properties and behaviors that are different from those of the parts.[14] An organization can be viewed as an open system. Organizations are influenced from within and outside their environment and seek to continually expand their capacity to create their own future.[15] This organization or learning system must be capable of gathering information, processing the information and then making a decision that moves the system towards its aim or objectives.[16]

The big question is then; why do organizations or systems with a vision or aim not produce the apparent or anticipated behavior or outcome? One factor is based on how humans perceive the system. Humans tend to focus on snapshots of the isolated parts of the system due to mental tunnels or models.[17] These mind tunnels create difficulties in understanding problems and how to solve them. Each person perceives from experience how a system should behave based on the way they believe it should behave. As science attempts to explain complex relationships within systems, theorists such as Peter Senge have stepped back from reductionist thinking toward system thinking to explain the behavior. System thinking is a discipline for seeing systems as a whole entity. It is a framework for viewing the system's overall patterns of behavior by

comprehending the interrelationships of the various components. It focuses on the patterns of change of the system as opposed to the behavior at one static moment in time.[18] The concept has been applied to analyze various organizations operating within corporate, economic, and political environments.[19]

In order to understand the theoretical concept of system performance, the analyst must conceive of what affects the systems. The systems within these environments are considered "open." An open system is one that continuously exchanges matter, energy, and information with other systems and with the environment at large.[20] The significance of the open system is that entropy or disorder enters the system reducing its efficiency or ability to achieve its aims. Clausewitz refers to this concept when he discussed "friction" affecting the military systems in the environment of war. This tremendous friction, which cannot, as in mechanics, be reduced to a few points, is everywhere in contact with chance, and brings about effects that cannot be measured, just because they are largely due to chance.[21] Systems must be dynamic in order to survive the friction that hinders their progress. They must anticipate the friction or changes in the environment caused by other systems and then adapt to the circumstances or face failure/extermination. The process in which they identify the changing environment is called feedback. Feedback processes information and allows the system to assess their current status and continue or alter the system's course of action.

The need for system thinking increases daily as the world around becomes more complex. Complexity theory deals with the study of systems which exhibit complex, self-organizing behavior.[22] Self-organizing behavior is the behavior exhibited by a system composed of numerous components where each acts according to its own

circumstances and requirements but by so acting affects all the other components and the overall behavior of the organization.[23] Each system and its components need information to make the decisions that direct the organization toward its objectives and aims. However, huge amounts of information make the processing slow or incomplete or the absence of information impedes its progress. The result is an organization that becomes dependent on information and its interdependency is linked within its components to distribute the relevant information throughout. Complexity and system theory allow us to understand these relationships and formulate a method to analyze our opponents.

"In any problem where an opposing force exists, and cannot be regulated, one must foresee and provide for alternative courses. Adaptability is the law which governs survival in war as in life--war being but a concentrated form of the human struggle against environment."[24]

B. H. Liddell Hart

PROPOSED METHODOLOGY

Liddell Hart rationalized the need to be adaptable based on the difficulty in regulating an enemy. Liddell Hart was not entirely correct. Although it is difficult to regulate an enemy, it is conceivable to predict the pattern of behavior and adapt your system in a manner that directly counters the behavior that would have interfered in achieving your aims or objectives. The proposed methodology of analyzing an operational enemy is a modification of the current IPB process. The current process consists of four continuous steps. Although the process is holistic in concept it is reductionist in application. The steps are often examined in isolation and relationships are often ignored.[25]

The current IPB methodology is a continuous process that defines the battlefield environment, describes the battlefield effects, evaluates the threat, and determines enemy courses of action.[26] The methodology addresses many aspects of understanding the enemy and terrain but uses inductive reasoning. It examines an enemy by breaking him down into fixed component parts, i.e. the battlefield operating systems. Each component's capabilities are identified via a doctrinal template and are described within the battlefield operating system's realm of possibilities. Each component suggests the most likely enemy course of action with little or no consideration of the overall higher

intent. Understanding the context, of which a tactical battle is being fought, may suggest to each of the battlefield operating systems a completely different course of action. The process focuses on the physical limitations of the environment and provides the commander what the enemy can physically do within his capabilities. This is a reductionist method. This reductionist methodology is insufficient at the operational level because it cannot identify the myriad of factors and complex relationships that affect the overall system and anticipate a behavior not directly associated with any particular component. For instance, why did the Vietnamese infantry attack during the TET offensive when they knew the United States Army could defeat them with superior firepower?

The operational level must be more holistic or deductive to integrate the many other factors. The process must identify the overall intent first and then follow with how each of the components supports the overall desire of the system. The current IPB process examines individual characteristics and gives general effects on the operation. The IPB may do this in intent, but in application it is very difficult. It is much more difficult to consider the combined effects on the enemy and predict behavior that seems unpredictable. A better method may be to examine the opposing forces as a system without using doctrinal templates. Every system is unique and has unique components and methods of behaving. Above the tactical level, a method should include addressing all the domains; physical, moral and information. The physical domain includes land, air, sea and space. There are a few evolving theories that take large, unpredictable bodies and view them in a holistic method. System and complexity theories provide a framework to analyze large systems by understanding the systems' aims/objectives, their

composition and what do, what they need to subsist, and how they process information within an environment. This method based on theory may improve analysis of the enemy at the operational level and may break the paradigm of how to conduct IPB at the higher echelons of military planning. The question therefore arises is there utility to using complexity and system theory as the framework for the IPB process at the operational level of war?

The proposed methodology is more holistic in concept and application. It is a deductive methodology. The first step is to identify the enemy and friendly systems and their critical components. This is significantly different than the current process incorporating the friendly system. The overall systems involved (not necessarily in conflict) must first be identified. Each system's strategic and operational aims/objectives are then identified and shown how each are in conflict. Then the question is how will they achieve their aims/objectives or impose their will on each other's system.

The methodology must then identify the major components of the system that are critical to imposing their will and what is the interrelationship between the components? The component or components that provide the system the ability to impose its will may be considered its *centers of gravity*. Clausewitz defined center of gravity as the hub of all power and movement, on which everything depends.[27] It is an important concept in which to base an operational or campaign plan. Clausewitz referred to it as the point at which the commander should direct his energies. From this the major components of the systems are identified and linked to the strategic and operational objectives/aims, the opposing system and the environment. This shows the complex linkages and relationships between the components within the context of its environment. These

components may be identified to the commander as decisive points or vulnerabilities based on their relationship within the system.

Each step is not sequential. An overlapping step is to identify the environment in which both systems exist. The focus must be on what is available within the environment that the system can use to leverage its will upon the opposition to achieve its aims. The environment includes aspects of air, land, sea, space, and information. The methodology must identify what is available within the environment that can hinder or impede its leveraging. Finally, what are the resources or consumables that the system needs to exist and support the system. Every living system needs some source of subsistence to maintain its energy. Are these resources available or are they in short supply?

The third overlapping step is to identify how the system will achieve its aims. Based on the big picture, what is the enemy organization's pattern of behavior for this unique situation? Depending on the organization's positive or negative aims, they will seek to impose their will to achieve their aims or it they may have to impose their will to deny the opposition's will.

> "By *intelligence* we mean every sort of information about the enemy and his country—the basis, in short, of our own plans and operations. If we consider the actual basis of this information, how unreliable and transient it is, we soon realize that war is a flimsy structure that can easily collapse and bury us in its ruins."[28]
>
> Carl von Clausewitz

ANALYSIS OF CHECHNYA

The Russians do not use the United States Army IPB process but the process can be used to examine if it addresses the complex problems faced by the Russians during this conflict. The battle for the capital city of Grozny was a failure for the Russians. This failure can be attributed to the Russian's failure to learn, anticipate and adapt. As Clausewitz stated, the Russians' plan was buried in the ruins of their poor knowledge of who and why they were fighting. For the purposes of analysis, the battle of Grozny will be examined from the perspective of the Russians. The proposed IPB methodology is used to evaluate the threat and the environment and identify if the process addresses the lessons learned.

STRATEGIC BACKGROUND:

In order to conduct the operational analysis, the strategic background must be understood in order to comprehend the big picture. The Russian road to war in Chechnya begins hundreds of years ago but the most recent battle in Grozny can be traced to incidents that occurred in 1991. In November 1991, Chechnya declared itself a sovereign state of the Chechen-Ingush Republic.[29] Moscow paid little attention to the small territory and soon the National Congress of Chechen People began adopting separatist resolutions to secede from the Soviet Union. Russian President Yeltsin promised

autonomy for the constituent republics and advocated versions of ethnic sovereignty. As a result, on 12 June 1991, Yeltsin received over 80% of the voters in the Chechen-Ingush Republic.[30]

Initially, the Russian leadership did not have the desire or the capability to suppress the separatists. A move by the political opposition directed against the Yeltsin political party sparked the uprising. The Soviets seeking to debase the Russians authority countered by denying the republic's autonomy and instigating the rebels to take action. Based on his situation, General Dzhokhar Dudayev resigned from the Soviet military and became the leader of the All National Congress of the Chechen People.[31] When autonomy was denied, Dudayev declared himself the supreme authority of the Republic of Chechnya.[32] He created his own military and began to take steps to seize control of the capital city of Grozny. He was able to rapidly gain control of the major infrastructure within the city in a matter of weeks.

President Yeltsin responded with an ultimatum to disarm and release the critical facilities within Grozny. At this time, a large portion of the population did not agree with Dudayev's policies or intentions. Yeltsin responded with a "state of emergency" and issued a decree removing Dudayev and replacing him with Arsanov. This resulted in a public uproar and sentiment increased for Dudayev. The crisis escalated and Yeltsin soon dispatched Russian military forces to neutralize Dudayev and his military forces.

The increased tensions by opposition forces within Chechnya contributed to Moscow's support of these opposition forces to unseat Dudayev. The Moscow backed opposition forces conducted a failed assault in Grozny using Russian equipment in November 1994. Dudayev's forces captured 70 Russian soldiers and paraded them

throughout the city in front of international media.[33] Yeltsin responded by issuing a decree to restore legality to Chechnya and deployed Russian troops to the area. The Russians initiated the campaign, in December 1994, by sealing off the Chechen borders and airspace followed by entering Chechnya with Russian troops.[34]

The Russian military seized the military airport and advanced with tanks into Grozny after a long artillery prep. A fierce battle ensued within the city resulting in hundreds of Russians casualties and over 100 vehicles destroyed.[35] There were many civilian casualties as well due to indiscriminate artillery rounds. The Russians claimed initial victory by raising their flag over the capital building.[36] The victory would be short lived as Dudayev's forces would continue the fight until 1996 and eventually expel the Russian forces.

PROPOSED METHODOLOGY:

The proposed methodology may provide some insight to the Chechen system. Following the proposed IPB methodology, the analyst must begin by identifying the systems involved and their critical components. The two operational systems are the Russian military system and the Chechen rebel system. These are the systems that are used to impose the will of their corresponding strategic systems. The Russian system's components consist of a formal hierarchical command structure with a bureaucratic decision-making process, a combat force, and a logistical support system. The Chechen system was composed of a command structure led by the rebel leader named Baseyev and a rebel combat force.

The next step is to identify the aims and objectives of each system. The strategic aim of the Chechen system at the strategic level is to achieve sovereignty and

independence from Russia.[37] The way the system seeks to advance and accomplish this aim is through operational objectives that included cessation of combat in Chechnya, withdrawal of Russian troops and entry into negotiations with President Dudayev.[38] The strategic aim of the Russian system at the strategic level, in the wake of the Berlin wall falling, is to maintain Chechnya as part of the greater Russia.[39] The operational objectives are to secure Grozny by removing Dudayev and neutralizing the rebels led by Baseyev.[40] The aims and objectives of each system are in direct conflict within the environment and neither can exist without a major compromise by either system. The Chechens ability to achieve their aims and objectives are through their rebel forces since diplomatic dialogue failed. The rebel leader has a variety of means to garner support for these forces, which are identified later in the process. The Russians will impose their will via their professional military force. In theory, each force would struggle against the other to impose their will. In reality, the forces are influenced by many other factors and can be affected indirectly.

In order for the Chechen system to achieve its objectives, the forces have to gather information, process it, and make decisions that direct the efforts of their military. The decision-makers at the operational level within the city are both Dudayev and Baseyev. Dudayev was a dynamic and charismatic leader, a former Russian pilot and was very knowledgeable with Russian politics and military capabilities.[41] He controls Baseyev his rebel operational level commander. Baseyev was trained on Russian military tactics and has a great deal of combat experience fighting with the Mujahadin.[42] Baseyev's military force is well-trained in Afghan-type ambush tactics. The rebel force is relatively small with some 15,000 combatants with 50 tanks and 100 infantry combat

vehicles.[43] It is outnumbered and outgunned by the available Russian conventional forces. Baseyev and his rebel force are the means Dudayev has of imposing his will and achieving the Chechen aims.

The Russian operational system is led and controlled by a bureaucratic chain of command that affected the system from Russia. The Defense Minister Grachev is one such character that directs much of the military efforts.[44] He controlled the commitment of troops and initiated the offensive operations into Grozny. The Russian conventional forces available consist of 38,000 soldiers, 230 tanks, and 454 armored combat vehicles.[45] This ratio, without using a correlation of forces, is not resourced for offensive operations in urban terrain. A doctrinal ratio is three to one for conducting an attack against a deliberate defense. In urban areas, a higher number of infantry is required to move in small decentralized units to identify and clear enemy forces. Dudayev taught military affairs in school and understood the importance of street fighting tactics.[46] The analysis can anticipate a nontraditional response against the Russians with small units using hit and run tactics to ambush and harass better armed forces within the city.

The environment includes the infrastructure of the city and the population within the city of Grozny. The city of Grozny is a capital city and a hub of various transportation nodes. These include the road and bridge network, the railhead junction and the airport. These links and nodes are the basis of controlling the flow of personnel and logistics into the city. Also within the city are the presidential palace, the market place and the oil tank fields. The presidential palace represents the seat of authority and its control provides a perception of legitimacy. The market place and oil fields are the economic basis of the city and form the nexus of all resources into the city that supported

the population and the rebels. A river divides the city and is connected by a fixed number of crossing sites, which potentially can isolate portions of the city. Cutting off the various routes through the city can potentially isolate the city. The city consists of multiple story buildings, which implies large armor forces will be vulnerable and will need to be organized at the operational level with combined arms units.

The population must also be considered part of the environment and not as a separate system. Few populations can be considered neutral. The population is a physical force that each system will have to deal with as impedance or facilitator to their cause. A population will provide resistance or shelter to the rebels. The population and rebels are of the same ethnic make up and will be impossible to distinguish. An analyst can anticipate that the rebels will operate as peaceful citizens and provide intelligence to the Chechen rebel system. The process can also anticipate if the population is injured or oppressed by the military occupation, the residents will resist. A civilian population with limited assets tends to use unconventional means that may affect the psychology of the opposing Russian soldiers. An additional concern is the military effect on a population creating countless refugees. The Russians must anticipate and plan for dealing with this problem.

The Chechen rebels are inextricably linked to the population within the urban environment and could use it as a leverage for their cause. The population has a long history of resisting Russian control. This is a strong factor when Dudayev seeks to rally the population. The rebel forces are composed of Chechens loyal to the cause of autonomy. After the first oppressive attempt by the Russians to gain control of the city, a major portion of the population becomes sympathetic to Dudayev's cause. The

population is a force that can be leveraged by the Russians, as well. If the Chechen populace could be convinced of remaining within the arm of the Russian motherland they would deny the rebels support. They could be convinced by nonmilitary means. If a more aggressive method of diplomatic dialogue occurred, the Russians could show the economic benefits of remaining under the influence of Russia. The population is linked to both systems. The reverse is true as well. The more "pain" the Russian system or more specifically its military forces impose on the population the more the Chechen people will join the cause for independence with the rebels.

The Chechen system operates within the confines of the environment but has access to assets that transit in and out of the environment. It includes the major facilities within the capital of Grozny, including the airfield, the central market, the presidential palace and the train station. These critical assets control the flow of resources and/or information. The Russians require access to the transportation facilities to allow for resupply operations. The palace represents the Chechen rebel base of power. By capturing the palace, the Russians signal to the Chechen population that they are in power.

Each system consumes various resources differently. The knowledge of what each system needs to subsist to achieve its objectives provides an insight to identifying potential vulnerabilities and areas to leverage. The critical essentials include time, information, and logistics to support the military. Time is a critical commodity that both systems see differently. The Chechen system views time as an asset to be consumed to their advantage. The longer the Chechens can fend off the Russian advances, the more time they can use to garner support from the internal population and international

agencies. Consumption of time is also proportional to the loss of Russian casualties and resources expended. The Russians seek a rapid conclusion to curtail expenditures and allow them to focus on economic and international matters.

The consumption of information is critical to both the Chechen and Russian systems. The gathering of information and its processing to make decisions affect how each system directs its efforts. Each system needs information and each system seeks to deny the other of information that exposes it to attack. Dudayev is shrewd and has many friends still in Russian government.[47] Dudayev operates within the open or permeable environment because he has internal contacts within the Russian government that allow him access to the Russian decision cycle to anticipate actions. Dudayev garners knowledge of his adversaries to take advantage of political situations and he uses information operations to pass information through the media to millions of people to support his cause. He continues to pass this information down to Baseyev.

Logistics are a critical asset to both systems as well. The Chechen rebels have to subsist with food and weapons to fight the Russian forces. The logistical lines remain within the city. The Russian lines are stretched for hundreds of miles and do not provide all the required assets to accomplish their mission. If the Russian military logistical support is cut off, they may be required to draw supplies from the city, which will detract from the support for the rebels and population.

All these components are linked. Dudayev has established a strategic aim and his means to impose his aim or "will" is via his operational commander that controls his rebel forces. They are the means of achieving his operational objectives to cease combat in Chechnya, force the withdrawal of Russian troops and make the politicians enter into

negotiations with Dudayev. The rebel forces need the support of the population. The population provides internal support to their government and provides recruits to fill their army. But Dudayev did not initially have the support, until the Russians began to influence the environment. Dudayev would have to achieve this by showing the population that the Russian system was more oppressive than the existing government.

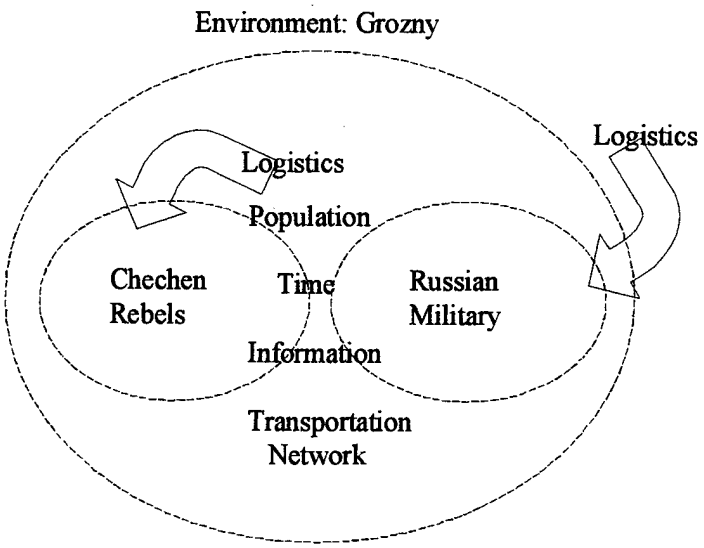

Figure 1

The infrastructure of the environment is a complex matter because it supported the population and Dudayev could not damage it without hurting his support by the population. However, it was the means of supporting his government and military forces. The critical essentials of supplies and information had to be transmitted via the television and transportation systems. Time was another critical asset that both sides sought control over. The Russians sought a quick solution to focus on other matters and the Chechens sought to extend time as long as possible to garner support and build its conventional/

guerilla forces.

RUSSIAN FAILURES:

The actual result of the battle of Grozny was the failure of the Russians to impose their will or aim upon the Chechens. The Russians failure can be attributed to a myriad of areas to include understanding who they were fighting and how the urban environment would affect them in Grozny. The Foreign Military Studies Office consolidated a number of lessons learned by the Russians in Grozny. Specific Russian failures included the miscalculation of the necessary force and equipment requirements needed to subdue the Chechens in Grozny. The Chechens' potential was underestimated and the Russian strength was overestimated.[48] The Russians were unaware that Dudayev still had contacts in Russia.[49] The Russian military command underestimated the morale and psychological state of Chechen population and the fanaticism of illegal groups.[50] The Russian military was unfamiliar and had a poor knowledge of the urban area of operations.[51] The Russians military system required radical changes in the structure of armed forces and the content of their training.[52] The Russian country's public opinion, the executive branch, the federal Assembly deputies, and the mass media were not prepared for fighting on their own territory.[53] This adversely affected the morale and psychological state of the Russian soldiers and officers.[54]

CRITERIA ANALYSIS OF METHODOLOGY:

Based on information available to the Russian government and military, they could have used a holistic approach to better learn and understand the Chechen system, anticipate their actions and adapt to impose the Russian will upon the rebels. The

Russian failures can be attributed to a number of complex causes but many could have been mitigated by a good analysis and understanding of the Chechen forces and the environment by using a deductive method. The proposed IPB methodology could have provided the Russians a means to learn of the Chechen system by taking into account the long history of fighting for independence. The methodology takes into account how the Chechen rebel organization fights based on resources available and the environment. The Chechen operational center of gravity is arguably the rebel force and its decisive points include the command and control and the logistical/popular support of the rebel forces. In the absence of the decisive points, the rebel force loses its power to impose its will. The Russians can expect the rebels to fight unconventionally with small unit tactics to hit and run against conventional forces. They have no air or water based threat. They have no space assets at their disposal other than access to communications type satellites. These are potential vulnerabilities to be exploited. The media is a means to disseminate propaganda to affect the civilians and interdict the Russian oppression. The cause is almost fanatical and may result in an escalation of means. Although the capability to use heavy weapons is limited, the Russian can expect the Chechens to use unconstrained means to affect the physical force and psychology of the Russian soldiers.

The proposed methodology anticipates the Chechens have to leverage a number of resources in order to have sufficient military power to resist. The system anticipates a long drawn out fighting that escalates to identify the threshold of pain the Russian government would support. The overall Chechen pattern of behavior the Russians can anticipate is a defensive posture within the city to consume time as they attempt to rally support. The Chechens will use the population to their advantage by using them as an

intelligence source and part of the environment in which to conceal themselves. The Chechens potentially will use nontraditional methods of fighting with hit and run type ambushes. They will try to affect the psychology of the Russian soldiers with unconventional attacks. The Chechens may try to use the media to garner international support for their cause. The Russians can anticipate a large number of casualties in the urban fighting.

The proposed methodology recommends adapting the Russian system in advance to counter the assets the Chechen system have available to leverage. The Russians should have potentially proposed a nonmilitary option to persuade the population to oppose the rebels. They need to garner support from the Chechen civilians and establish legitimacy to the pro-Russian government. A passive military action can prevent creating refugees or if a more active plan were planned the refugees should be removed into a sanctuary. The Russians should adapt their military forces to fighting in an urban environment against unconventional means. If they are ordered to conduct offensive operations, they should initially use nonlethal type weapons to minimize collateral damage to civilians to prevent their direct involvement in the fight. The critical vulnerability is the rebel command and control structure. If the rebels can be denied centralized control that orchestrates their efforts they can be removed piecemeal with a large combined arms force.

Examining the Chechen rebels as a system in relation to the Russian system within the complex environment reveals a greater understanding of how the Chechens might fight. The proposed IPB methodology provides a fundamental way to examine the opposing force initially as system and then how its components and the environment are

used to leverage to achieve its desired endstate. The analysis may appear superficial in this monograph due to insufficient space but it is important to understand the methodology. The methodology must address each situation and system as a unique entity. The method may not address every operational lesson learned but "the process" does address many of them to better prepare the commander for upcoming operations.

"While intelligence has traditionally tended to focus on the enemy, the definition of who or what the enemy is in a peace operation is not always clear."[55]

Kenneth Allard

ANALYSIS OF SOMALIA

The United States operations in Mogadishu, Somalia provide another example of failure in an urban environment at the operational level of war. A significant factor contributing to the failure was the poor intelligence analysis of the enemy as the mission evolved over time. The intelligence process attempts to focus on a particular enemy but how does the process address an unclear threat such as in stability and support operations that change over time.

STRATEGIC BACKGROUND:

The strategic background provides the foundation for the operational analysis of the fighting in Mogadishu. One critical event that affected the United Nations involvement in Somalia can be traced to 27 January 1991 when Somali President Siad Barre was forced to go into exile by opposition forces.[56] However, long before his exile, the military, police and government and civilian services had ceased to operate.[57] As the Somali State collapsed, factions began to compete for control and anarchy filled the streets. In February 1991, Ali Mahdi Mahammad became the provisional President of Somalia.[58] The former Army commander General Mahammad Farrah Aideed opposed this selection and formed his own faction.[59] Fighting erupted throughout the country and control of the cities exchanged hands between the numerous clan leaders. The problem was worsened by a long-standing drought that destroyed farms and livestock, and brought famine throughout the land.[60] The fighting between the clans made it impossible to

unload the ships that non-governmental agencies were delivering in the port city of Mogadishu. The supplies and food that were unloaded were stolen at dockside. The media projected the images of the starving refugees to the world and forced the United Nations and the United States to take action. On 14 August 1992, President George Bush ordered an emergency airlift of food to Somalia.[61] But problems would develop in late November when a United Nation's ship, attempting to deliver 10,000 tons of food to Mogadishu, was fired on and driven away from port.[62] The next day, a Pakistani peacekeeper was shot when his car was hijacked.[63] The United Nation Security Council called for immediate military action in Somalia based on these events and a deteriorating security situation.[64] Aideed was held responsible for numerous attacks on United Nations forces. UNOSOM began a campaign to capture Aideed, a significant change from the original mission of peace keeping. United States forces under the command of the United Nation's flag bombed and strafed portions of Mogadishu and alienated much of the population.[65] In July, the United States forces destroyed a building believed to be Aideed's headquarters.[66] Dozens of Somalis were killed. As the operation continued, United Nations casualties continued to mount. There was significant pressure from Congress building for deployment of additional troops. In October, as the debate continued, the senior United States commander received intelligence on the location of Aideed's top lieutenants. He planned to capture them in a military raid. The raid of the Olympic Hotel was unsuccessful as United States forces were surrounded and suffered 18 dead and 84 wounded.[67] The Somali's dragged the American bodies through the streets. The media projected these images around the world and affected the United Nation's commitment. The United States withdrew its forces shortly thereafter.

PROPOSED METHODOLOGY:

A major portion of the unrest occurred in Mogadishu. The refugees were accumulating to access the relief supplies being delivered by United Nations. Simultaneously, opposing factions were in a struggle for control of the city and the country. As the mission evolved from peacekeeping to enforcement, United Nations had to conduct a continuous review of the threat and develop plans that achieved the maturing objectives. The deductive methodology may have proven beneficial.

Within Mogadishu, the analysis of the scenario at the operational level shows that there were three systems coexisting within the environment of Mogadishu. The process considers the Aideed and Mahammad clans as independent because each acts in its own behalf and seeks its own aims and objectives. The friendly operational system is the United Nations military forces under the leadership of the United States.

The aims and objectives of the systems involved are not explicit. The United States' strategic aim is to support the United Nation's resolutions to restore peace so humanitarian assistance can be provided. The United Nations established an objective authorizing the soldiers to "use all necessary means" to ensure that foodstuffs reached the starving.[68] While the United Nations Secretary General Boutros Boutros-Ghali preferred that the troops be used to pacify the country, the United States insisted that force would only be used as a defensive measure. The United States would command the multinational force to be known as Unified Task Force (UNITAF).[69] The Somali aims are not clear due to the lack of a united and consolidated government. However, the implied aims of the Aideed clan are that they do not want the United Nations to recognize the existing government.[70] Aideed wants a material reconciliation leading to a new

government in which his faction would play a more prominent role.[71] Aideed wants to retain his power base and span of control with his clan. His means are his rebel force and weapons. He will be unable to influence any situation without access to weapons. The Mahammad clan, on the other hand, seeks to maintain the existing governmental structure. Their objectives include establishing relationships with the United Nations and maintaining a perception of legitimacy throughout Somalia and the international community.[72]

The components of the Somali clans are basic but have very complex relationships. The components include the command and control or leadership of the clans. Each clan has its own rebel force used to impose its will on the others. The Somali clans have a considerable combat force available. In the north, Mahammad has approximately 5,000 fighters at his disposal.[73] The Aideed clan, in the south, has over 10,000 fighting men.[74] Both clans have significant amount of weapons. The military used the heavy arms stockpiled from Russia in preparation for an invasion of Ethiopia in 1977.[75] The United Nations has a command and control component with a difficult task of controlling numerous diverse components. The United Nations do not have direct control of nongovernmental agencies but should be considered as subcomponents due to their common mission of providing support. The United Nations military force is limited with an original mission of peacekeeping it is not resourced with heavy armor assets. There is limited armor for force protection of the infantry units.

The environment is harsh and the famine has a significant affect on the population. The port city of Mogadishu is one of the largest cities in Somalia with a population in excess of 350,000.[76] The population swelled with refugees to over

500,000.[77] The population is critical to this analysis as part of the environment. The population identify themselves according to their clan family and the area from which they originate.[78] Dr. Kenneth Markhaus explained clan identity is fluid and complex enough to allow genealogical links to be recast according to the political needs of the moment:

> "A different clan identity could be highlighted or suppressed depending on the situation." This is "a source of tremendous frustration" for outsiders, particularly foreign military. Clan identity "made for political units that were very unstable, very fluid and this was so frustrating for the international forces and civilian diplomats who were part of the intervention because they could not get a clean fix on political units in Somalia...this fluid situational political identity serves the interest of Somalis...but it didn't serve ours very well and it was a source of misunderstanding."[79]

Another aspect of the population is their culture of "Diya."[80] Diya groups are sworn to avenge injustice against one of its members of the collective unit. If one individual is injured or humiliated it is perceived by the entire clan as an issue to be resolved by force.[81] In Somali culture, conflict management never ends. There is a constant dialogue between the key players and any arrangements made without ratification by the key players are not viewed as legitimate.[82]

The civil war destroyed the infrastructure and civil services disintegrated within the city. The drought left hundreds of thousands of Somali civilians starving.[83] Somali's are typically a nomadic society and do not have good relations with their neighbors.[84] Therefore, the population within Mogadishu was divided between clans and each resorted to arms to stake their claims. By 'March 1992, Africa Watch estimated 14,000 dead and 27,000 wounded.[85]

Within the city, a few fixed infrastructure locations provide the support to each of the systems. The seaport and the airport provide the United Nation's forces their

logistical support. The seaport is the primary means of delivering of relief supplies to the area.

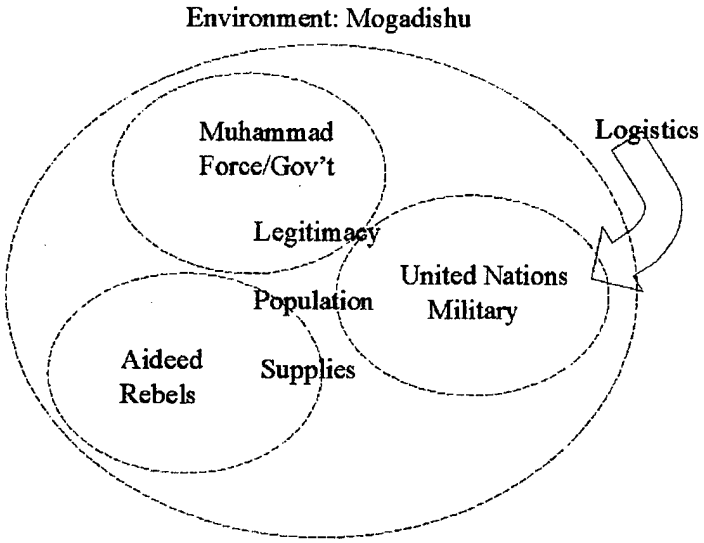

Figure 2

Large quantities of relief supplies need to be stockpiled in preparation to move to distribution points. The clans fear not getting their share and will aggressively attempt to acquire the supplies. Throughout the city are various checkpoints established by the clans allowing access to the neighborhoods. At these checkpoints are clansmen to collect tolls. Nongovernmental agencies must pay with supplies to pass. These checkpoints can be established very rapidly throughout the city.

The critical linkages include the relationships of the leadership and the population of the environment, the flow of supplies into Mogadishu and the fighting for legitimacy. The most important linkage is the clan leaders to their appropriate clan and the population. The clan leaders may be considered a decisive point that controls the rebels. Their removal or separation could hamper or redirect the objectives of the clan. Aideed

may be applying the theory of seapower described by Julian Corbett.[86] Aideed moves elusively throughout the "sea" or population. As long as Aideed remains a "leader in being," he retains his power base to control the rebels at his disposal.[87] In addition, United Nations forces must interact among the population to provide the relief supplies. Everyone among the population is associated with a clan and is a source of intelligence and power to the clan leaders. The situation is counterintuitive in that the United Nations is assisting the exact persons that are opposing them.

Although the clans are not always in agreement, any outside threat unites them against outsiders. The critical linkage to legitimacy within the government is the United Nations. Whichever clan or leader the United Nation sides with provides them an air of legitimacy. But dichotomous to this is the fact that the United Nations is trying to disarm everyone in the region. By disarming the clans, the United Nations removes the leaders perceived ability to defend themselves and influence the immediate situation.

Also, making the relationship more complex is the fact that the United Nations is the source of much needed supplies to the city. The Somali clan may seek different methods of acquiring the supplies. One clan may seek a legitimate means of waiting for the supplies to be distributed through the distribution points. Another option is to be aggressive and take the supplies before they get to the distribution point. The clansman can ultimately use the food as a weapon by denying it to the population.[88] This in turn affects the United Nations via the media when they are unable to successfully achieve their objectives.

UNITED NATION'S FAILURES:

The United Nation's failure in Somalia can be attributed to their lack of understanding of the mission and knowledge of their opposition. An improper perception of the enemy results in developing and executing a campaign plan that does not achieve the strategic aims. The operational lessons learned include the forces that survive a state collapse are capable of serving as the building blocks of a new order.[89] The factions that grow up after a state collapses are more likely to cooperate with the international community if they perceive it will allow them to retain power.[90] Who are the right people to negotiate with in the reestablishment of the government? No major deployments or actions can take place without the consent of local forces.[91] Disarmament is not feasible, unless agreed upon to by all factions, therefore it should be avoided.[92] Peacekeeping operations require a more measured and patient effort.[93] The straight-ahead method of bullying through a problem lacked foresight in identifying a solution.

CRITERIA ANALYSIS OF METHODOLOGY:

The methodology has provided a means for the United Nations to learn, anticipate and adapt to this complex situation. A small amount of research reveals the major parties involved and their military capabilities. The opposing clan forces are not capable of conventional warfare but are capable of small unit harassment and can grow significantly when integrated with the population. The clan leaders control the population and impose their will through the clan hierarchy and control of food and water stolen from the nongovernmental agencies. Control of the situation translates to having the weapons to intimidate any opposition. The removal of the leader does not necessarily mean removal

of the threat. Since clans are continually in conflict, the source of the conflict is not necessarily the leader as much as the clans' perceptions of the other clans. The center of gravity of the Muhammad clan may be their legitimacy as the ruling body imposing its will within the capital. The Aideed center of gravity may be their rebel forces used to impose their will forcibly over the other clan and opposition of the United Nations.

Based on the analysis, the United Nations can anticipate a complex pattern of behavior within the environment of Mogadishu. The Aideed clan will continue to seek the unseating of the current government as their priority at the expense of receiving supplies. Any perceived direct threat to either clan will unite its members against the other clan or United Nations. Aideed will maintain his idea of a "leader in being" and remain mobile within the environment and evade any attempts at capture. The idea of disarmament is a direct threat to each clan. A clan without weapons is vulnerable to not only the United Nation's forces but to other clans. The population has a common ethnicity and the rebels or various clans are indistinguishable among the population by the westerners. The Somalis will use this as a source of intelligence on the United Nations. The United Nations can anticipate continued Somali raiding of nongovernmental supplies to gain leverage over other clans. The food will eventually be disseminated but will create a power base to the clan leader that controls the majority of food and water supplies. Any actions by the United Nations must be tempered with the knowledge that humiliation of clansmen can result in violent responses. Whichever clan controls the area of the seaport and airport will require interaction with the United Nations and give them legitimacy among the clans.

The analyst should recommend a method of adaptation for the United Nation's commander. The United Nations will have to accept small losses of food supplies to the clans throughout the process of distribution and must enter the situation with the idea of compromise. The Aideed clan wants to remove the existing government because of favoritism to particular clans. Therefore, a continuous series of meeting could be set to compromise between the two clans in the Mogadishu area and the fighting might subside for a period to deal with the immediate problem of the starving population. Any perceptions of favoritism must be eliminated. The United Nations should attempt to use clan elders to calm the situation, as elders are highly respected in this culture. Any military reaction that humiliates or injures the clan members will result in the population uniting against the outside forces and should be minimized. Aideed will remain mobile. If they seek to capture him they will need a strategy similar to concepts forwarded by Corbett.[94] The United Nation's system needs to distribute assets to identify the leader and mass at a point to remove him or directly threaten something of value to him that exposes him to removal.

Examining the opposing clans as systems in relation to the United Nations as a system within the complex environment provides a holistic understanding of how the Somalis might fight. The proposed IPB methodology integrates a fundamental way to understanding how complex a few components of a system can be. The methodology views the environment with its population as a resource to leverage and achieve its desired endstate. The methodology addresses this situation and its multiple systems as a unique problem. Once again, the process is the key to visualizing the dilemma in a holistic manner as the commander seeks to develop his campaign plan.

"...the development of a new system cognition raised the legitimate need for a new theory, not of systems of a more or less special kind, but rather for one applying to systems in general, based upon universal principles. This, to a certain extent, is the justification for applying the theory of general systems to the field of military operations."[95]

Shimon Naveh

CONCLUSIONS/RECOMMENDATIONS

Naveh recognized the need for applying new theories in his research of operational art. His profound thoughts establish a theoretical foundation on the conduct of operational warfare. If today's operational commanders use this system concept in the development of campaign plans than the analyst require a parallel method to legitimately analyze the enemy at the operational level. The current IPB process is a tool for the analyst and commander but does not substitute for a sound analysis. There are a number of shortfalls in the current IPB process with respect to providing the commander a thorough analysis of the enemy and the environment. The main shortfall is the grounding of the process in firm theory. This method provides the analyst a fundamental way to understand and address each situation in a unique manner. The process must integrate the friendly force into the environment to gain an overall understanding of what each seeks to achieve and how. At the operational level, the holistic approach using deductive reasoning is necessary to understand the aims of complex systems and how it imposes its will on other systems.

This monograph proposes that the IPB process must reduce potential failure for the commander by arguing that the process must learn, anticipate and adapt. The best

way to achieve this is to use the systems approach to understand the patterns of behavior that an enemy exhibits. Each system at the operational and strategic level has many tools that can be leveraged at their disposal but in order to be successful they need critical resources such as information. This means the operational analysis can identify the critical components that are used to assimilate information and these may become vulnerabilities for the commander to recognize.

The current IPB process uses the accepted doctrinal method of analyzing the enemy, terrain and weather. However, the tactical level and operational level are distinct and must be examined differently. The tactical level of war is more of a scientific analysis of weapon systems and capabilities based on physical combinations of positioning. The intelligence officer can narrow down the tactical enemy's course of action from the realm of the physically possible. The scope of the terrain and weapons narrows down the choices available to the enemy commander. However, the operational level is more complex and is dependent on a number of abstruse variables. It is futile to think that reducing a complex environment into a simple "this is what the enemy will do" is flawed. The operational level of war includes the science of war but is predominantly based on the art of war. Complexity and system theories assist in recognizing uncertainty of the art at the operational level and may have application in the IPB process. Complexity and system theory may provide an updated approach to the IPB process by providing the commander a common understanding of the complex phenomena at work in the urban environment.

The analysis of Chechnya and Somalia highlights the importance of IPB for the commander. Each example shows that a deductive, system approach identified how the

systems operating within the environment seek to achieve their respective objectives. The revised IPB process identified how systems get and use information in order to anticipate a pattern of behavior. Based on examining the two cases of urban warfare at the operational level, one can recommend the need for additional research to revise the current IPB methodology and update the means to present the information to the commander. The process, unlike the tactical level, may not have a most likely or most dangerous course of action. The complexity of the process should provide the commander a range of potential choices the enemy commander may want to use to achieve his aims. However, of greatest importance to the commander is identifying the critical components of the enemy system and the critical linkages between the components and the relationship these components have to output.

The process must include an analysis of the friendly capabilities within the environment. Analyzing the enemy in isolation is impossible using the holistic approach. The recommended revision to the process should consider the following steps. The first step of the process must be to identify the friendly, enemy and any allied systems associated with each. The second step is to identify the environment. This not only includes the city limits of the urban environment but the links (open system) to the outside world. These include critical nodes that control information, the transportation nodes and the areas that represent the system's power. The third step is to identify the system's strategic aims and/or operational objectives. The fourth step is to identify the critical components that comprise the system. Each component must contribute to how the system imposes its will or achieves its aims/objectives. The fifth step is to identify how each component contributes specifically to achieving the aims/objectives. This step

must also include how each component relates to the other and which have interrelationships or dependencies. These dependencies reveal potential vulnerabilities for the commander to anticipate and adapt his force to exploit these vulnerabilities. The commander must understand what occurs if a component is destroyed, damaged, or shocked and the second or third order repercussion that occurs to the system. The sixth step is to graphically portray to the commander the complex relationships of the systems within the environment. The diagrams must show the linkages and identify the vulnerabilities.

This is not all-inclusive but is a framework for commanders to understand the enemy has a myriad of choices and if you push on or eliminate a component, there may be repercussions that have to be appreciated in the resulting pattern of behavior. Upon analysis, the concept of using system and complexity theories has merit. The recommended revision provides a unique, deductive method to examine and identify the potential enemy and their pattern of behavior. Based on the criteria an analyst can use the process to learn about the enemy, anticipate his behavior and recommend to the commander how to adapt in order to succeed or achieve his desired objectives/aims.

ENDNOTES

[1] Lin, Cheng, Ed. Sun Tzu on the Art of War. China: Tamkang University, 1975, p. 104.
[2] U. S. Department of the Army, Intelligence Preparation of the Battlefield, Field Manual 34-130, Government Printing Office: Washington, D.C., 8 July, 1994, p 1-1.
[3] U.S. Department of the Army. Operations. Field Manual 100-5. Government Printing Office: Washington, D.C., June 1993.
[4] U. S. Department of the Army, Intelligence Preparation of the Battlefield, Field Manual 34-130, Government Printing Office: Washington, D.C., 8 July, 1994, p. 5-1.
[5] A sample includes Caniano, William M. "Uncertainty, Intelligence, and IPB: The Role of the Intelligence Officer in Shaping and Synchronizing the Operational Battlefield." Newport, RI: College of Naval Command and Staff, 19 June 1992. Johnson, Keven D. "Intelligence Preparation of the Theater." Fort Leavenworth, KS: School of Advanced Military Studies, 15 May 1991. Marks, James A. "In Search of the Center of Gravity: Operational Intelligence Preparation of the Battlefield." Fort Leavenworth, KS: School of Advanced Military Studies, 7 June 1990. Preysler, Charles A. "MOUT Art: Operational Planning Considerations for MOUT." Fort Leavenworth, KS: School of Advanced Military Studies, 19 May 1995. Purcell, Thomas C. "Operational Level Intelligence: Intelligence Preparation of the Battlefield." Carlisle Barracks, PA: U. S. Army War College, 31 March 1989. Scales, Robert H. "The Indirect Approach: How U.S. Military Forces Can Avoid the Pitfalls of Future Urban Warfare," Armed Forces Journal International. Vol. 136, No. 3, October 1998, pp. 68-73. Snider, Lauri J. "An Assessment of Intelligence Preparation of the Battlefield: Doctrine for Humanitarian Assistance." Fort Leavenworth, KS: School of Advanced Military Studies, December 1995.
[6] Ibid.
[7] U.S. Department of Defense. "Report of the Defense Science Board Task Force on Military Operations in Built-Up Areas (MOBA)." Office of the Under Secretary of Defense For Acquisition and Technology, Washington, D.C., November 1994.
[8] Cohen, Eliot A. and John Gooch. Military Misfortunes: The Anatomy of Failure in War. New York: The Free Press, 1990, p. 25.
[9] Ibid, p.25.
[10] Ibid, p.25.
[11] Clausewitz, Carl von. On War. Princeton, NJ: Princeton University Press, 1976, p.75.
[12] Ibid, p. 78.
[13] Bertalanffy, Ludwig von. General System Theory. New York, NY: George Braziller, Inc., 1968, p. 19.
[14] Alberts, David S. and Thomas J. Czwerwinski, Eds. Complexity, Global Politics, and National Security. Washington, D.C.: National Defense University, June 1997, p. 46
[15] Senge, Peter. The Fifth Discipline: The Art and Practice of the Learning Organization. Sydney, Australia: Random House, 1990, p. 14.
[16] Ibid, p. 7.
[17] Palmaretti
[18] Senge, p.68.
[19] Ibid, p.69
[20] Alberts, p.230.
[21] Clausewitz, p. 120.
[22] Alberts, p. 233
[23] Ibid, p. 234.
[24] Hart, B. H. Liddell. Strategy. New York: Praeger, 1967, p. 330.
[25] Center for Army Lessons Learned. "Intelligence BOS." (http://call.army.mil/call/newsltrs/89-4/89inte.htm). Accessed 8 April 1999.
[26] FM34-130, p. 1-1.
[27] Clausewitz, p. 595-596.
[28] Clausewitz, p.117.
[29] Payin, Emil E. and Arkady A. Popav. "Chechnya." RAND Publication, (http://www.rand.org/publications/CF/CF129/CF-129.chapter2.html), Accessed 8 February 1999.
[30] Ibid.

[31] Columbia International Affairs Online. "The Search For Peace in Chechnya: A Sourcebook 1994-1996, Chronology of the Peace Process." (http://www.ciao.org), Accessed 8 February 1999.
[32] Thomas, Timothy L. "The Caucus Conflict and Russian Security: The Russian Armed Forces Confront Chechnya III. The Battle for Grozny, 1-26 January 1995," The Journal of Slavic Military Studies. Vol. 10, No.1, March 1997, p. 75.
[33] Columbia International Affairs Online website.
[34] Ibid.
[35] Ibid.
[36] Ibid.
[37] Ibid.
[38] Ibid.
[39] Ibid.
[40] Ibid.
[41] Ibid.
[42] Ibid.
[43] Thomas, p.97.
[44] Ibid, p. 80.
[45] Ibid, p. 96.
[46] Columbia International Affairs Online website.
[47] Ibid.
[48] Thomas, p.88.
[49] Ibid, p.88.
[50] Ibid, p.88.
[51] Ibid, p.88.
[52] Ibid, p.88.
[53] Ibid, p.88.
[54] Ibid, p.88.
[55] Allard, Kenneth. Somalia Operations: Lessons Learned. Fort McNair, Washington, D.C.: National Defense University Press, January 1995, p.76.
[56] Lyons, Terrence and Ahmed I. Samatar. Somalia: State Collapse, Multilateral Intervention, and Strategies for Political Reconstruction. Washington, D. C.: The Brookings Institute, 1995, p.7.
[57] Metz, Helen Chapin, Ed. Somalia: A Country Study. Washington, D. C.: Library of Congress, May 1992, p. xxix.
[58] Ibid, p. xxix.
[59] Ibid, p. xxix.
[60] U.S. Department of Defense. Joint Military Operations Historical Collection. Office of the Joint Chiefs of Staff, Washington, D.C.: 15 July 1997, p. vi-1.
[61] Ibid, p. vi-2.
[62] Ibid, p. vi-3.
[63] Ibid, p. vi-3.
[64] Ibid, p. vi-3.
[65] Lyons, p. 58.
[66] Ibid, p. 58.
[67] Ibid, p. 59.
[68] Joint Military Operations Historical Collection, p. vi-4.
[69] Ibid, p. vi-4.
[70] Minister of Public Works and Government Services Canada, "Somalia," (http://www.dnd.ca/somalia/vol1/v1c11e.htm), 1997. Accessed 5 April 1999.
[71] Ibid.
[72] Ibid.
[73] Metz, p. xxx.
[74] Ibid, p. xxx.
[75] Clarke, Walter S. SSI Special Report "Somalia: Background Information for Operation Restore Hope 1992-93." Carlisle Barracks, Pennsylvania: Department of National security and Strategy U.S. Army War College, December 1992, p.3.

[76] Minister of Public Works and Government Services Canada, "Somalia," (http://www.dnd.ca/somalia/vol1/v1c11e.htm), 1997.
[77] Ibid.
[78] Ibid.
[79] Ibid.
[80] Ibid.
[81] Ibid.
[82] Ibid.
[83] Metz, p. xxx.
[84] Clarke, p. 4.
[85] Metz, p. xxx.
[86] Corbett, Julian. Some Principles of Maritime Strategy. Annapolis, Maryland: Naval Institute Press, 1988.
[87] Corbett, p. 209-226.
[88] Metz, p. 170.
[89] Lyons, p. 72.
[90] Ibid, p. 72.
[91] Ibid, p. 72.
[92] Ibid, p. 75.
[93] Ibid, p. 75.
[94] Corbett, p.209-226.
[95] Naveh, p.5.

BIBLIOGRAPHY:

Alberts, David S. and Thomas J. Czwerwinski, Eds. Complexity, Global Politics, and National Security. Washington, D.C.: National Defense University, June 1997.

Allard, Kenneth. Somalia Operations: Lessons Learned. Fort McNair, Washington, D.C.: National Defense University Press, January 1995.

"Army After Next, 19-30 April 1998 - State of the World, 1998-2021." Booz-Allen & Hamiliton, Inc.: US Army Training and Doctrine Command, Fort Monroe, Virginia, 1998.

Arnold, James R. TET Offensive 1968: Turning Point in Viet Nam. London: Osprey Publishing Ltd, 1994.

Arnold, S. L. "Somalia: An Operation Other Than War," Military Review. December 1993, pp. 26-35.

Barry, John L., Michael W. Everett and Allen G. Peck. Nonlethal Military Means: New Leverage for a New Era. Boston, Massachusetts: Harvard University, 1994.

Bertalanffy, Ludwig von. General System Theory. New York, NY: George Braziller, Inc., 1968.

Caniano, William M. Uncertainty, Intelligence, and IPB: The Role of the Intelligence Officer in Shaping and Synchronizing the Operational Battlefield. Newport, RI: College of Naval Command and Staff, 19 June 1992.

Clarke, Walter S. SSI Special Report "Somalia: Background Information for Operation Restore Hope 1992-93." Carlisle Barracks, Pennsylvania: Department of National security and Strategy U.S. Army War College, December 1992.

Clausewitz, Carl von. On War. Princeton, NJ: Princeton University Press, 1976.

Cohen, Eliot A. and John Gooch. Military Misfortunes: The Anatomy of Failure in War. New York: The Free Press, 1990.

Cook, Judson. "More Than Technology." ENGINEER. U.S. Professional Bulletin Vol. 27, August 1997, pp. 12-15.

Corbett, Julian. Some Principles of Maritime Strategy. Annapolis, Maryland: Naval Institute Press, 1988.

De Bloch, Jean. The Future of War: In its Technical, Economic and Political Relations.

Boston: The World Peace Foundation, 1914.

English, John A. On Infantry. New York, NY: Praeger Publishers, 1984.

Evancoe, Paul R. "Non-lethal Technologies Enhance Warrior's Punch," National Defense, December 1993, pp. 26-29.

Finch, Raymond C. III. "A Face of Future Battle: Chechen Fighter Shamil Basayev," Military Review, May-June 1997, pp. 33-41.

Fuller, John F. C. The Foundations of the Science of War. Fort Leavenworth, KS: U.S. Army Command and General Staff College Press: Kansas, 1993.

Glenn, Russell W. "Combat in Hell: A Consideration of Constrained Urban Warfare." RAND monograph MR-780-A/DARPA, 1996.

Grau, Lester W. "Changing Russian Urban Tactics: The Aftermath of the Battle for Grozny." INNS Strategic Forum, Number 38, July 1995.

Hart, B. H. Liddell. Strategy. New York: Praeger, 1967.

Hewish, Mark and Rupert Pengelley. "Warfare in the Global City," Jane's International Defense Review, June 1998, pp. 32-35.

Integrated Idea Team on Operational and Tactical Mobility: Summary Report, The Strategic Assessment Center: Science Applications International Corporation, December 1997.

Johnson, Keven D. Intelligence Preparation of the Theater. Fort Leavenworth, KS: School of Advanced Military Studies, 15 May 1991.

Lasswell, James A. "Wall to Wall: Sea Dragon's Next Phase Explores Urban Warfighting Tactics in the 21st Century," Armed Forces Journal International, January 1998, pp. 36-39.

Lin, Cheng, Ed. Sun Tzu on the Art of War. China: Tamkang University, 1975.

Lyons, Terrence and Ahmed I. Samatar. Somalia: State Collapse, Multilateral Intervention, and Strategies for Political Reconstruction. Washington, D. C.: The Brookings Institute, 1995.

Marks, James A. In Search of the Center of Gravity: Operational Intelligence Preparation of the Battlefield. Fort Leavenworth, KS: School of Advanced Military Studies, 7 June 1990.

McLaurin, R.D., Paul A. Jureidini, and David S. McDonald. Modern Experience in City

Combat, Technical Memorandum 5-87. Aberdeen Proving Ground, MD: U.S. Army Human Engineering Laboratory, March 1987.

Metz, Helen Chapin, Ed. Somalia: A Country Study. Washington, D. C.: Library of Congress, May 1992.

Morris, William, ed. The American Heritage Dictionary of the English Language. Boston: Houghton Mifflin Company, 1980.

Munn, Christopher J. An Intelligence Process for the Operational Commander. Newport, RI: Naval War College, 17 June 1993.

Naveh, Shimon. In Pursuit of Military Excellence: The Evolution of Operational Theory. Portland, Oregon: Frank Cass Publishers, 1997.

Newman, Richard J. "Bombs Get Smarter; What About Generals," U.S. News and World Report. Vol. 124, Issue 19, May 18, 1998, pp. 42-43.

Newman, Richard J. "Warfare 2020," U.S. News and World Report. Aug 5, 1996.

Pasternak, Douglas. "Wonder Weapons: The Pentagon's Quest for Nonlethal Arms is Amazing. But is it Smart?," U.S. News and World Report. 7 July 1997, pp. 38-46.

Piattelli-Palmarini, Massimo. Inevitable Illusions: How Mistakes Rule Our Minds. New York: John Wiley and Sons, Inc., 1994.

Podlesny, Robert E. "MOUT: The Show Stopper," Proceedings. February 1998.

Preysler, Charles A. MOUT Art: Operational Planning Considerations for MOUT. Fort Leavenworth, KS: School of Advanced Military Studies, 19 May 1995.

Purcell, Thomas C. Operational Level Intelligence: Intelligence Preparation of the Battlefield. Carlisle Barracks, PA: U. S. Army War College, 31 March 1989.

Scales, Robert H. "The Indirect Approach: How U.S. Military Forces Can Avoid the Pitfalls of Future Urban Warfare," Armed Forces Journal International. Vol. 136, No. 3, October 1998, pp. 68-73.

Senge, Peter. The Fifth Discipline: The Art and Practice of the Learning Organization. Sydney, Australia: Random House, 1990.

Smith, Merritt Roe and Leo Marx, ed. Does Technology Drive History?. Massachusetts: The MIT Press, 1995.

Snider, Lauri J. An Assessment of Intelligence Preparation of the Battlefield: Doctrine for Humanitarian Assistance. Fort Leavenworth, KS: School of Advanced Military Studies, December 1995.

Stanton, Martin N. "Task Force 2-87: Lessons from Restore Hope," Military Review. September 1994, pp. 35-41.

Thomas, Timothy L. "The Caucus Conflict and Russian Security: The Russian Armed Forces Confront Chechnya III. The Battle for Grozny, 1-26 January 1995," The Journal of Slavic Military Studies. Vol. 10, No.1, March 1997, pp. 50-108.

Tsouras, Peter G. Changing Orders: The Evolution of the World's Armies, 1945 to the Present. Facts on File Inc.: New York, 1994.

U.S. Army Training and Doctrine Command. Force XXI Operations, TRADOC Pamphlet 525-5. Government Printing Office: Fort Monroe, August 1994.

U.S. Army Training and Doctrine Command. Knowledge and Speed: The Annual Report on the Army After Next Project to the Chief of Staff of the Army. Office of the Chief of Staff of the Army: Washington, D.C., July 1997.

U. S. Department of the Army, An Infantryman's Guide to Combat in Built Up Areas, Field Manual 90-10-1, Government Printing Office: Washington, D.C., 12 May 1993.

U.S. Department of the Army. Army Science and Technology Master Plan, Fiscal Year 1997, Government Printing Office: Washington, D.C., December 1996.

U.S. Department of the Army. Army Vision 2010. Government Printing Office: Washington, D.C., 1996.

U. S. Department of the Army, Intelligence Preparation of the Battlefield, Field Manual 34-130, Government Printing Office: Washington, D.C., 8 July, 1994.

U. S. Department of the Army, Military Operations on Urbanized Terrain (MOUT), Field Manual 90-10, Government Printing Office: Washington, D.C., August 15, 1979.

U.S. Department of the Army. Operations. Field Manual 100-5. Government Printing Office: Washington, D.C., June 1993.

U.S. Department of Defense. Joint Military Operations Historical Collection. Office of the Joint Chiefs of Staff, Washington, D.C.: 15 July 1997.

U.S. Department of Defense. "The Urban Century: Developing World Urban Trends and Possible Factors Affecting Military Operations," MCIA-1586-003-97, Defense Intelligence Reference Document, November 1997.

U.S. Department of Defense. Report of the Defense Science Board Task Force on Military Operations in Built-Up Areas (MOBA). Office of the Under Secretary of Defense For Acquisition and Technology, Washington, D.C., November 1994.

Waldrop, M. Mitchell. Complexity: The Emerging Science at the Edge of Order and Chaos, New York, NY: Simon and Schuster, 1992.

Wass De Czege, BG, "Mobile Strike Force," Military Review, Vol. 76, Issue 4, pg.70 -87 July/August 1996.

Wood, Todd R. Can IPB Eliminate Mission Creep? Fort Leavenworth, KS: School of Advanced Military Studies, 18 December 1997.

INTERNET:

Bowden, Mark. "Blackhawk Down: An American War Story," The Inquirer: Philadelphia OnLine, (http:\\www3.phillynews.com/packages/somalia/nov16/default16.asp), 6 November 1997. Accessed 3 October 1998.

Center for Army Lessons Learned. "Intelligence BOS." (http://call.army.mil/call/newsltrs/89-4/89inte.htm). Accessed 8 April 1999.

Columbia International Affairs Online. "The Search For Peace in Chechnya: A Sourcebook 1994-1996, Chronology of the Peace Process." (http://www.ciao.org), Accessed 8 February 1999.

Cox, Paul. "The Military Problem of Tomorrow: Urban Warfare." (http://www. marlboro.edu/~paulcox/urban.html), 1997. Accessed 10 November 1998.

Geibel, Adam. "Concrete Jungle- The Future City-Fight in Africa." (http://sun.ac.za/ local/library/john/army/concrete.htm), 1995. Accessed 15 October 1998.

Grau, Lester W. "Russian Urban Tactics: Lessons From the Battle of Grozny." National Defense University: Strategic Forum, (http://www.ndu.edu/ndu/inss/strforum/ forum38.html), 1995. Accessed 15 October 1998.

Lloyd, Seth. "Learning How to Control Complex Systems," (http://www.santafe.edu/sfi/publications/Bulletins/bulletin-spt95/10control.html), Spring 1995. Accessed 24 January 1999.

Marine Corps Warfighting Lab. "URBAN WARFGHTER: Information Packet," (http://www.mcwl.org/mcwl/documents/info_packet.pdf), September 1998. Accessed 15 October 1998.

Minister of Public Works and Government Services Canada, "Somalia," (http://www.dnd.ca/somalia/vol1/v1c11e.htm), 1997. Accessed 5 April 1999.

NATICK Research Laboratories. "LAND WARRIOR: Program Manager Fact Sheets," (http://www-sscom.army.mil/prodprog/lw/lhas.htm), October 1998. Accessed 2 November 1998.

Parker, Phillip. "Somalia Update: Military Operations on Urbanized Terrain (MOUT)." Center Army Lessons Learned, (http://call.army.mil/call/nftf/nftf1293/prt5.htm), December 1993. Accessed 2 November 1998.

Parmalee, Jennifer. "Waltzing with Warlords; Will the West Make Martyrs of Thugs in Somalia?," The Washington Post, 20 June 1993, (http://www.users.interport.net/~mmaren/parmalee.html). Accessed 5 April 1999.

Payin, emil E. and Arkady A. Popav. "Chechnya." RAND Publication, (http://www.rand.org/publications/CF/CF129/CF-129.chapter2.html), Accessed 8 February 1999.

Phelan, Steven E. "From Chaos to Complexity in Strategic Planning," (http://www.aom.pace.edu/bps/Papers/chaos.html), 6-9 August 1995. Accessed 24 January 1999.

UNPUBLISHED MATERIALS:

Glenn, Russell W. "Marching Under Darkening Skies: The American Military and the Impending Urban Operations Threat--A Status Check." draft RAND monograph, DRR-1787-1-A, March 1998.

Glenn, Russell W. and Randall Steeb, John Matsumura, Sean Edwards, Robert Everson, Scott Gerwehr, and John Gordon. "Denying the Widow-Maker: RAND-DBBL MOUT: Conference, February 24-25, 1998, Summary of Proceedings." draft RAND document, DRR-1854-A, May 1998.

Marine Corps Intelligence Activity. Urban Warfare: Lessons Learned Belfast 1969-76, MCIA-1586-001-97, prepublication draft, March 1997.

U.S. Department of Defense. Marine Corps Warfighting Publication (MCWP) 35.3, Military Operations of Urbanized Terrain (MOUT), (Draft). Department of the Navy, undated.